

## **ABSTRACT**

The invention provides for the use of isolated polynucleotides encoding maize poly (ADP-ribose) polymerase (PARP) proteins to produce eukaryotic cells and organisms, particularly plant cells and plants, with modified programmed cell death. Eukaryotic cells and organisms particularly plant cells and plants, are provided wherein either in at least part of the cells, preferably selected cells, the programmed cell death (PCD) is provoked, or wherein, on the contrary, PCD of the cells or of at least part of the cells in an organism is inhibited, by modulation of the level or activity or PARP proteins in those cells.